DRAFT ENVIRONMENTAL DOCUMENT

PROPOSED AMENDMENTS TO THE WATER QUALITY CONTROL PLAN FOR THE LAHONTAN REGION

Removal of the Municipal and Domestic Supply (MUN) Beneficial Use Designation from Surface Waters of Owens Lake, Inyo County

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EXECUTIVE SUMMARY

This environmental document analyzes direct and indirect environmental impacts of proposed Basin Plan amendments to remove the Municipal and Domestic Supply (MUN) beneficial use designation from all surface waters of Owens Lake. The amendments would allow the Regional Board to consider granting an exemption to a waste discharge prohibition in order to permit a U.S. Borax discharge of brine mining wastes to surface waters, and could affect Regional Board permitting and enforcement activities for other discharges to surface waters. A short summary of the environmental setting is included; more detailed information on water quantity and quality is provided in a separate technical staff report.

The proposed Basin Plan amendments would not have any direct environmental impacts (defined as physical changes in the environment). Indirect environmental impacts could occur as a result of future projects facilitated by the amendments. Potentially significant environmental impacts have been identified in 11 out 17 Environmental Checklist categories. Mitigation for most of these impacts has already been approved in three final Environmental Impact Reports that cover all reasonably foreseeable future projects on the Owens Lake bed. Impacts not already mitigated can and should be mitigated through supplemental site-specific environmental documents for future projects and conditions in Regional Board permits. This environmental document concludes that all impacts can be mitigated to less than significant levels. Potentially controversial issues associated with environmental impacts of the Basin Plan amendments include impacts on surface water uses other than MUN, such as aquatic, wetland and wildlife habitat, and habitat for sensitive plant and animal species. Impacts of the amendments on the designated MUN use of ground water beneath Owens Lake and existing and potential MUN uses of ground water from wells and springs above the historic lake shoreline may also be controversial.

INTRODUCTION

The California Regional Water Quality Control Board, Lahontan Region (Regional Board) is the state agency responsible for setting and enforcing water quality standards for surface and ground waters in about 20 percent of California, including the Owens Valley watershed. Water quality standards and control measures are set forth in the 1995 *Water Quality Control Plan for the Lahontan Region* (Basin Plan), as amended. Water quality standards in California include designated beneficial uses, narrative and numeric water quality objectives established to protect those uses, and a nondegradation policy.

In 1988, the California State Water Resources Control Board (State Water Board) adopted Resolution 88-63, the "Sources of Drinking Water Policy." The policy includes criteria for identifying sources of drinking water to be protected under Proposition 65, the Safe Drinking Water and Toxic Enforcement Act of 1986, California Health and Safety Code Section 25249.5 *et. seq*. When adopting the policy, the State Water Board directed Regional Boards to identify existing or potential sources of drinking water within their jurisdictions and to designate these waters for the Municipal and Domestic Supply (MUN) beneficial use. Drinking water standards, including California Department of

Health Services Maximum Contaminant Levels, apply to ambient surface and ground waters designated for the MUN use under the narrative water quality objectives for "Chemical Constituents," whether or not these waters are currently being used for municipal supply.

Prior to 1989, the MUN use was generally applied only to Lahontan Region waters that were actually being used for domestic supply. In 1989, the Regional Board adopted amendments to its 1975 North and South Lahontan Basin Plans to designate the MUN use for almost all surface and ground waters within its jurisdiction. The rationale was that, given the scarcity of water in much of the Lahontan Region, even poor quality surface and ground waters might someday be treated and used as municipal supplies. This decision resulted in the "blanket" application of the MUN use to many water bodies with naturally poor quality, including geothermal springs and the ephemeral surface waters of desert playa lakes. Such waters have naturally high levels of salinity and/or trace elements such as arsenic, fluoride and boron.

The currently proposed Basin Plan amendments would remove the MUN use designation from the surface waters of Owens Lake in Inyo County. A technical staff report (California Regional Water Quality Control Board, Lahontan Region, 2005) evaluates available data on water quality and quantity at Owens Lake and shows that removal of the MUN use is justified under the criteria in the state Sources of Drinking Water Policy and the federal Water Quality Standards Regulation (40 CFR 131.10[g]).

The Lahontan Regional Board's planning process has been certified by the Secretary for Resources under Section 21080.5 of the California Environmental Quality Act (CEQA) as "functionally equivalent" to the preparation of an Environmental Impact Report (EIR). This certification allows the Regional Board to prepare relatively short environmental documents rather than lengthy EIRs for proposed Basin Plan amendments.

Review of the beneficial uses of Owens Lake was included with a larger group of conceptual Basin Plan amendments in a February 2002 CEQA Notice of Preparation. Regional Board staff solicited further comments by stakeholders through a January 2005 consultation letter and a March 2005 scoping meeting notice for the currently proposed project. A CEQA scoping meeting was held in Bishop, California on April 18, 2005. Public comments on Owens Lake issues received in response to these consultation processes were considered during preparation of this draft environmental document.

Electronic copies of the existing Basin Plan, the proposed amendments, and the technical staff report will be available on the Regional Board's Internet web page at www.waterboards.ca.gov/lahontan. The web page also provides the opportunity for email subscriptions to the Regional Board's agenda announcements. Paper copies of the Basin Plan amendments and related documents may be obtained by contacting the Board's administrative staff at (530) 542-5400.

PROJECT DESCRIPTION

The Municipal and Domestic Supply (MUN) beneficial use is defined in Chapter 2 of the Basin Plan as: "Beneficial uses of waters used for community, military, or individual water supply systems including, but not limited to drinking water supply." Components of the MUN use other than human drinking water supply could include water supplies for pets and home aquaria, bathing, laundry and dishwashing, toilet flushing and landscape watering.

The proposed amendments would change Table 2-1 in the Basin Plan, "Beneficial Uses of Surface Waters of the Lahontan Region" to remove the "X" in the MUN beneficial use column for the "Owens Lake" row under the "Lower Owens HA" heading (HU No. 603.30). ("HU" stands for "Hydrologic Unit" or watershed, and Hydrologic Units may be divided into "Hydrologic Areas" or "HAs." The numbering system comes from watershed mapping by the California Department of Water Resources.) The proposed amendments would also clarify the application of the MUN use to wetlands on and near Owens Lake. (If the amendments are approved, the use will not apply to wetlands below the historic shoreline of the lake, at approximately 3,600 feet elevation.) Designated beneficial uses for the Lower Owens HA are shown on pages 2-26 through 2-28 of the current Basin Plan.

No other changes in beneficial uses are proposed for Owens Lake or associated surface and ground waters as part of these Basin Plan amendments. No changes are proposed in water quality objectives for the surface waters affected by the use change. However, removal of the MUN use would change the applicability of some existing water quality objectives. (See the "Environmental Impacts" section below and the technical staff report for more information on these objectives.)

The surface waters of Owens Lake affected by the proposed amendments include: 1) the brine pool in the west central portion of the lake bed, 2) water that reaches the lake bed from the Owens River and tributary streams, 3) artesian wells, springs and seeps discharging to the lake bed and associated wetlands, 4) shoreline wetlands extending onto the lake bed, 5) ponds from direct precipitation on the lake bed, and 6) stormwater runoff. Some of these waters may be interconnected with each other during periods of high precipitation and runoff. Some, but not all of these waters have been formally delineated as waters of the United States by the U.S. Army Corps of Engineers. All surface waters of Owens Lake are considered waters of the State of California, and state water quality standards apply.

The Lahontan Regional Board considered, but did not adopt, a different and larger group of Basin Plan amendments for Owens Lake in 1995. The earlier draft amendments included removal of the MUN use from the Owens Lake brine pool, but not from other surface waters. Some of the data used in the 1995 planning process have been used in development of the currently proposed amendments. However, the draft 2005 amendments should be considered a separate project under CEQA.

PURPOSE OF AND NEED FOR THE PROJECT

The primary reason for proposing removal of the MUN use at this time is to allow the Regional Board to consider permitting U.S. Borax to discharge brine mining wastes to the Owens Lake brine pool. The Lahontan Basin Plan prohibits most industrial waste discharges to surface waters. However, it allows industrial discharges to waters not designated for the MUN use, if appropriate findings can be made under state and federal antidegradation regulations, and if the discharge meets the regionwide General Discharge Limitations for industrial and municipal discharges (see Section 4.7 of the Basin Plan.). The Limitations require that discharges contain "essentially none" of a variety of toxic or otherwise deleterious substances.

On September 9, 2004, the Regional Board adopted Waste Discharge Requirements and a discharger self-monitoring program for U.S. Borax mining on Owens Lake outside of the brine pool. (The acronym "WDRs" for "waste discharge requirements" will be used in references to Regional Board permits throughout this environmental document.) The WDRs for U.S. Borax cover discharges to land above the brine pool. If the proposed Basin Plan amendments are approved, the Regional Board will consider revising the WDRs and adopting a concurrent federal National Discharge Elimination System (NPDES) permit to allow direct discharges of industrial wastes to the brine pool.

By changing the applicability of existing water quality objectives associated with the MUN use, the proposed Basin Plan amendments would also affect Regional Board permitting and enforcement activities for all other discharges to surface waters of Owens Lake. The proposed U.S. Borax discharge is the only known industrial discharge to surface waters that would be facilitated by removal of the MUN use. Much of the Owens Lake bed outside of the brine pool is either occupied by or targeted for dust control or wildlife habitat enhancement projects that may involve surface water discharges.

PROJECT APPROVALS

After their adoption by the Regional Board, the Basin Plan amendments must also be approved by the State Board, the California Office of Administrative Law, and the U.S. Environmental Protection Agency (USEPA). The USEPA will consult with the U.S. Fish and Wildlife Service under the federal Endangered Species Act in connection with its approval. No other agencies are expected to use this environmental document in permitting; there are no CEQA "responsible agencies" for the Basin Plan amendments.

JUSTIFICATION FOR REMOVAL OF MUN USE

The technical staff report summarizes data on surface water quality and shows that state and federal criteria for removal of the MUN use are met because:

- MUN is not an existing use of the surface waters of Owens Lake.

- The Owens Lake brine pool is highly saline, with a Total Dissolved Solids (TDS) concentration of about 430,000 milligrams per liter (mg/L), about 12.5 times as salty as seawater. It also has high concentrations of arsenic and other toxic trace elements. Available data show violations of drinking water standards or criteria for 14 constituents in the brine pool. Shallow water ponded on the lake bed, from natural sources or flooding and irrigation for dust control, can also be highly saline. Other surface waters (springs, seeps, wetlands, artesian wells) are of better quality than the brine pool, but data for some of them show violations of drinking water standards.

- Water quantity on the Owens Lake bed varies seasonally and annually, and even if treatment of this water for MUN use were feasible, supplies would not be reliable.

- A MUN use for Owens Lake cannot feasibly be attained through permit conditions or use of Best Management Practices. Treatment of Owens Lake brine (e.g., through desalination) is not likely to be technically or economically feasible.

Also, due to the importance of wetlands and ponded stormwater on Owens Lake as habitat for migratory shorebirds and other sensitive species, the better quality waters on the lake bed are likely to be in demand in the future for environmental, rather than domestic, purposes.

ENVIRONMENTAL SETTING

Additional information about the Owens Lake environment, especially water quality and quantity, is provided in the technical staff report. Much of the following information is taken from more detailed EIRs by the Great Basin Unified Air Pollution Control District (GBUAPCD, 1997) and the Inyo County Planning Department (2004).

Owens Lake is the natural terminus of the Owens River, located at the southern end of Owens Valley between the Sierra Nevada and the Inyo Mountains (Figure 1). The lake bed extends about 17 miles north and 10 miles east and west, and covers an area of about 70,000 acres (110 square miles). About 95 percent of the Owens Lake bed is owned by the state of California and managed by the California State Lands Commission. The Commission leases portions of the lake bed to other public and private entities for brine mining, grazing, and rights-of-way. The largest leased areas include the mining claim that takes in most of the brine pool, and the areas dedicated to present and proposed dust control projects. The Los Angeles Department of Water and Power (LADWP) owns land on the lake bed in the Owens River delta area. The U.S. Forest Service, U.S. Bureau of Land Management, and LADWP are major landowners in the Owens Lake watershed.

The 2000 census population of Inyo County as a whole was 17, 945. Most of the county is in government ownership, and only about 1.7 percent of the land is privately owned (Inyo County Planning Department, no date). The total population of the area near Owens

Lake was about 3,230 in 1997. The nearest communities to Owens Lake (all unincorporated) are Olancha, Cartago, Keeler, and Lone Pine. Land uses in these communities include residential units, highway related businesses, community services, and a water bottling plant at Cartago. Livestock grazing occurs in some of the natural wetland/riparian areas around the lake, and in areas irrigated from natural springs. The roadway network near Owens Lake includes U.S. Highway 395, State Routes 190 and 136, and unimproved roads providing access to the lake bed (GBUAPCD, 1997).

The Owens Lake watershed has a dry, "high desert" climate, with average annual precipitation about 4 to 17 inches depending on elevation. Evaporation concentrates salts in the brine pool and can bring salts in shallow ground water to the surface. The chemical nature of the salt crust on the Owens Lake bed makes it especially prone to suspension by wind, and the lake is the largest single source of particulate matter (PM_{10}) air pollution in the United States. Owens Lake's air basin is in violation of state and federal standards. The GBUAPCD has adopted an air quality control plan, to be implemented by the City of Los Angeles, that calls for dust control to attain air quality standards by 2006. The plan has been approved by the state and federal governments, and is federally enforceable. The dust control program involves a mixture of projects to stabilize the lake bed, including shallow flooding, managed vegetation (vegetation of bare playa surface with the salt-tolerant grass species *Distichlis spicata*), and gravel placement.

Diversions from the Owens River and other tributaries to Owens Lake since the 19th century (initially for agriculture and later for water supply to the City of Los Angeles) have reduced Owens Lake to less than one-third of its original area and about 5 percent of its original volume. The average elevation of the brine pool is 3,553.55 feet, compared with the former shoreline at 3,600 feet (GBUAPCD, 1997). The average brine pool elevation has been formally delineated by the U.S. Army Corps of Engineers as its Ordinary High Water Mark (Figure 2). Some wetlands on and near the Owens Lake bed have also been delineated as waters of the United States. All surface waters of Owens Lake, including ephemeral waters, are waters of the State of California and subject to state water quality standards.

Owens Lake was saline, with a TDS concentration of about 90,000 mg/L, before diversions began. The Los Angeles Aqueduct was completed in 1913, and the lake dried almost completely by the 1920s. The present Owens Lake brine pool contains a mixture of sodium sulfate, chloride, and carbonate salts that precipitated as the lake dried following the diversion of its tributaries. The salt deposit ranges from a few inches to nine feet deep, and includes the economically important sodium carbonate/bicarbonate salt, trona. The brine also includes high concentrations of elements such as arsenic, boron, and fluoride, from natural geothermal and volcanic sources including the Long Valley Caldera at the headwaters of the Owens River. The concentration of arsenic in the brine pool is 110,000 micrograms per liter (µg/L), much higher than the current California and federal drinking water standards (50 µg/L and 10 µg/L, respectively).

The Owens Lake bed is underlain by sediments up to 10,000 feet deep, with an estimated available ground water storage volume of almost 14 million acre feet. There is a shallow,

poor quality ground water aquifer, at depths from zero to more than 20 feet below the playa surface. Its quality is influenced by surface brine. Deeper ground water is of better quality. Ground water hydrology is complex, and needs for further study have been identified. Local communities and businesses obtain domestic water supplies from wells and springs located above the historic shoreline of Owens Lake. The potential impacts on these domestic supplies from ground water pumping from the lake bed, and of ground water contamination from discharges on the lake bed, are of concern to stakeholders.

Biological information on Owens Lake and the surrounding lands includes extensive surveys carried out in connection with the dust control plan and the Lower Owens River Project (GBUAPCD, 1997; LADWP, 2004). Upland vegetation is mostly shadscale scrub. There are a variety of habitats and biological communities on the lake bed ranging from wetlands and temporary open water to dry, essentially unvegetated playa and the brine pool. Water from different aquatic habitats can mix during wet periods. The brine pool supports only algae and bacteria adapted to its high salinity. Water quality is better in the wetlands near the margins of the lake, and they support over 70 species of aquatic invertebrates. Brine flies are especially important as food for migratory shorebirds and waterfowl.

The GBUAPCD's studies identified more than 270 aquatic and terrestrial animal species potentially occurring in the Owens Lake area. At least 37 plant and animal species found on or near Owens Lake are considered sensitive by the state and/or federal governments (Table 1). In addition, the wetlands at Owens Lake support several invertebrate species that are endemic (found nowhere else), such as three species of tiger beetles. Several of the Owens Lake wetland communities (alkali meadow, alkali seep, freshwater seep, transmontane alkali marsh, and transmontane freshwater marsh) are considered sensitive biological resources (Inyo County Planning Department, 2004).

The importance of Owens Lake as habitat for shorebirds and other migratory birds has led to its inclusion in the U.S. Fish and Wildlife Service's Western Shorebird Plan (Oring *et al.*, 2004). Audubon California (Cooper, 2004) has also designated Owens Lake as an Important Bird Area, part of an international network of sensitive bird habitats targeted for conservation efforts. The species of greatest concern in relation to human activities on the Owens Lake playa is the western snowy plover (inland population). Owens Lake supports more than 10 percent of the California breeding birds within this population (Cooper, 2004). The plover nests on the dry playa surface and obtains food and water from nearby springs and wetlands. The U.S. Fish and Wildlife Service's 1998 Owens Basin Wetland and Aquatic Species Recovery Plan for Inyo and Mono Counties addresses eight target organisms including the western snowy plover. Its goals include restoring target species to viable populations.

Cultural resources are most likely to be found along the historic shoreline of Owens Lake and in the Owens River delta. The Lone Pine Paiute-Shoshone Tribe represents Native American interests in the Owens Lake area. A cultural resources search for the Inyo County Planning Department's (2004) EIR for the U.S. Borax trona mining and processing project site shows 22 archaeological sites and 5 historical properties within a 2

mile radius of the project area. The county did not survey the lake bed mining panel site because it would historically have been inundated.

ENVIRONMENTAL IMPACTS

No direct effects (defined as physical changes) on the environment will occur as a result of Regional Board adoption of the proposed Basin Plan amendments. The amendments could have indirect effects on the environment by changing the applicability of certain regulations to the Regional Board's permitting and enforcement activities for Owens Lake projects, as follows:

- The narrative water quality objectives in Chapter 3 of the Lahontan Basin Plan related to the MUN use will no longer apply to surface waters of Owens Lake. These include the objectives for Chemical Constituents, Radioactivity, and part of the Pesticides objective that apply state drinking water standards to surface waters designated MUN. A number of other narrative objectives state that water quality shall not be altered to the extent that it adversely affects beneficial uses. If the MUN use is removed, Regional Board interpretation of these objectives in permit conditions and enforcement activities will change.

- Proposition 65 prohibits the discharge of any chemical "known to the State to cause cancer or reproductive toxicity" to a potential source of drinking water, with certain exceptions. The Proposition 65 prohibition would not apply to Owens Lake, since it would no longer be considered a potential source of drinking water.

- The Regional Board could allow industrial waste discharges to surface waters of Owens Lake, if they meet the exemption criteria in Sections 4.1 and 4.7 of the Basin Plan.

Indirect effects on the environment could occur as a result of projects and waste discharges on the Owens Lake bed that are affected by the regulatory changes summarized above. The only reasonably foreseeable future discharges to surface waters of Owens Lake that could be facilitated by the Basin Plan amendments are: (1) the proposed U.S. Borax discharge of mining wastes to the brine pool, (2) discharges for shallow flooding and irrigation under the dust control program, and (3) surface water discharges in the Owens River delta as a result of the Lower Owens River Project.

The Owens Lake operation now owned by U.S. Borax has mined trona using the "panel" method, described below, since 1976 (GBUAPCD 1997). In 2004, Inyo County completed a final EIR and approved a conditional use permit to allow U.S. Borax to upgrade its mining and trona processing facilities. The permit will lead to mining of up to 144,000 tons of trona per year. U.S. Borax facilities at Owens Lake include a mining lease on 16,120 acres of state land (including much of the brine pool), a mobile ore-processing unit, onshore drying and calcining units, and associated infrastructure. U.S. Borax operations also involve use of roads on the dry lake bed, and a well to supply wash water (Inyo County Planning Department, 2004). The panel mining method involves

isolating a block of ore from the lake bed with clay berms, and pumping interstitial brine for washing and processing. The waste brine from the washing process is generally more dilute than lake brine. The U.S. Borax discharge includes wash water collected in the dewatering process, ore impurities, boiler blow-down from dryer units, a flocculent (Magnafloc 155), sodium bisulfite, and tri-basic sodium phosphate. Under the current WDRs, all of these wastes must be discharged to clay-lined tailings ponds above the Ordinary High Water Mark of the brine pool. If the Regional Board approves a U.S. Borax discharge below the Ordinary High Water Mark, these process wastes could be discharged directly to the lake brine. Inyo County's permit covers the projected 40-year lifetime of U.S. Borax's mining activities at Owens Lake, including discharges to the brine pool. In addition to mining itself, the Inyo County EIR addressed the impacts of upgrading U.S. Borax's facilities above the historic shoreline of Owens Lake. Impacts of these onshore facilities should not be considered indirect impacts of the proposed Basin Plan amendments.

After full implementation of the dust control plan, control projects will occupy much of the Owens Lake bed outside of the brine pool. The Lahontan Regional Board issued WDRs for the Southern Zones Dust Control Project in 2002, and will consider permits for later projects as they are proposed. The shallow flooding and managed vegetation projects are currently supplied by water from the Los Angeles Aqueduct. This water becomes highly saline after contact with the playa surface. As summarized in the current WDRs, the maximum depth of water in "Shallow Flooding" or "Habitat Shallow Flooding" areas will be approximately 4 inches. The approximate TDS concentration of water used in these areas will be between 5,000 and 450,000 mg/L. The salinity level will generally be maintained in the upper portion of the range. The managed vegetation areas will have water depth "just enough for vegetative cover growth needs." The TDS concentration of water used for managed vegetation will vary between 5,000 and 126,000 mg/L. The operation ponds will have average depths of about 3 feet and TDS will vary between 120,000 and 450,000 mg/L. Discharges associated with dust control projects may also include fertilizer and pesticides. Other facilities associated with dust control projects include roads, pipelines and possibly offsite gravel quarries.

The Lower Owens River Project (LORP) involves use of Los Angeles Aqueduct water to increase flows within the river above a "pumpback station" upstream of the Owens River delta. Under the project, specific base and pulse flows will be maintained in the delta and existing wetland habitat is expected to be maintained. Ground water inflow may increase in the delta area due to upstream infiltration of surface water (LADWP, 2004). A Regional Board permit for the LORP is under development. Most of the impacts of this project will occur upstream of Owens Lake, but the expected washout of sediment, organic debris, ammonia, and sulfur compounds from the river channel could affect surface water quality in the delta.

The environmental impacts of each of the three projects above have been addressed and mitigated in an approved final EIR. As a "responsible agency" under CEQA, the Regional Board will use these EIRs, and/or any subsequent environmental documents prepared by the same lead agencies for site-specific project impacts, in developing and

revising permits for waste discharges from these projects. Project-specific CEQA documents would be required for any other new projects on the Owens Lake bed.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

The answers to environmental checklist questions below focus on indirect impacts of the proposed Basin Plan amendments. For most categories, the answer "Less than Significant with Mitigation" reflects already approved mitigation in one of the three earlier EIRs mentioned above. The conclusions of the EIRs are summarized briefly in the checklist discussions. In some cases, Regional Board staff have identified additional potential impacts related to changes in the applicability of water quality objectives. Such impacts can be mitigated under the Board's permitting and enforcement authority.

	Potentially Significant Impact	**Less than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
I. AESTHETICS- Would the project:				
a) Have a substantial adverse effect on a scenic vista?		X		
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			X	
c) Substantially degrade the existing visual character or quality of the site and its surroundings?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?		X		

The presence of mining equipment and dust control facilities on the Owens Lake bed changes the visual character of an open space. The LORP may change the size and locations of surface water bodies in the Owens River delta area, but there will be no visible new structures in the delta as a result of the project. The GBUAPCD (1997) concluded that the visual impacts of dust control projects would be less than significant. The Inyo County Planning Department (2004) identified potentially significant aesthetic impacts, mostly related to U.S. Borax's onshore facilities. This EIR also notes that washing facilities will require permanent equipment and area lighting for safety and operations. (U.S. Borax plans to operate a night shift.) Lighting on the lake bed would increase ambient illumination at night, potentially affecting motorists on Highway 395 and U.S. Navy overflights. Effects of lighting on views from residences around Owens Lake were considered less than significant. County-required mitigation measures for the effects of night lighting include: limiting lighting to facilities essential for safe operations, controlling lighting with motion sensors and/or timed switches, focusing lighting on target facilities through shields and baffles, use of low brightness fixtures with

optical controls, use of technology to block direct light from view of motorists on Highway 395, and compliance with U.S. Navy ground structure lighting requirements.

Changes in the applicability of water quality standards and prohibitions as a result of approval of the Basin Plan amendments would not in themselves affect the aesthetic impacts of facilities on the Owens Lake bed. Operation of U.S. Borax's mobile washing equipment and associated lighting in the brine pool area will change the locations of lighting impacts, but the County's identified mitigation measures are meant to apply to the entire project, including mining in the brine pool.

	Potentially Significant Impact	**Less than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
II. AGRICULTURE RESOURCES- Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				X

The only agricultural activities near Owens Lake are associated with livestock grazing on pastures irrigated from springs near the shoreline, or in the Owens River delta area. The Agricultural Supply (AGR) beneficial use designation applies to springs and wetlands associated with Owens Lake under the "Minor Wetlands" and "Minor Surface Waters" categories for the Lower Owens HA. Removal of the MUN use and changes in the applicability of existing water quality objectives would not result in farmland conversion or conflicts with agricultural zoning. The three EIRs cited above did not identify any potentially significant impacts of their projects on agriculture that required mitigation. Discharges to surface waters facilitated by the proposed Basin Plan amendments could conceivably affect irrigated pasturelands on the Owens Lake bed or grazed areas in the delta during very wet years, through transport of mining waste chemicals and/or pesticides and fertilizers from dust control projects in flood waters. The mitigation measures discussed under Categories IV (Biological Resources), VII (Hazards and Hazardous Materials) and VIII (Hydrology and Water Quality), below, will mitigate such risks to less than significant levels.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY- Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?				X
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?		X		
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?		X		
d) Expose sensitive receptors to substantial pollutant concentrations?			X	
e) Create objectionable odors affecting a substantial number of people?			X	

The GBUAPCD (1997) identified the potential for temporary emissions of air pollutants, associated with construction of dust control projects and associated gravel mining and hauling operations. Such impacts could include construction dust and fugitive dust from vehicle operations, and vehicle exhaust emissions. Mitigation for dust emissions involves compliance with District rules to prevent visible dust from leaving the site. Controls can include, but are not limited to, the use of chemical soil stabilizers, surface coverings, water trucks and water sprays. Vehicle emissions were not expected to violate local air quality standards. Health risks from onsite air emissions were concluded to be less than significant because projects will be carried out in accordance with state and federal safety regulations. The GBUAPCD also identified short-term, less than significant impacts from (1) odors associated with disturbance of sediment containing hydrogen sulfide and with irrigation tailwater and (2) local increases in humidity from water-based dust control measures.

The Inyo County Planning Department (2004) EIR discussed emissions from U.S. Borax project facilities and associated vehicular traffic, and concluded that there were no potentially significant impacts requiring mitigation. The LADWP (2004) EIR identified the potential for odors from rewatered areas, including the delta, but did not consider this a significant impact. However, warning signs may be posted. The proposed Basin Plan amendments will not change the nature or intensity of the air quality impacts already identified and mitigated in earlier EIRs for projects on the Owens Lake bed.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES -- Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		X		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?		X		
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		X		
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?		X		
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?		X		

(Also see the discussions of impacts and mitigation measures under Categories VII, Hazards and Hazardous Materials and VIII, Hydrology and Water Quality.) As noted in the Environmental Setting section, there are multiple sensitive plant and animal species and sensitive wetland habitats in the Owens Lake area. New or expanded projects on the Owens Lake bed that might be facilitated by the Basin Plan amendments could affect biological resources in many ways. These include the impacts of project construction and operation as well as impacts of discharges to surface waters. Changes in the salt concentration of the brine pool and shallow flood waters on the Owens Lake playa are not expected to affect salt tolerant algae and bacteria, the only aquatic organisms to inhabit the brine. However, salinity increases could adversely affect the biota of less saline wetlands on the lake bed. Habitats could be affected by local changes in water quantity (e.g., ground water withdrawals could affect wetland vegetation). Increases in

the amount of surface water on the lake bed could result in migration barriers for terrestrial animals.

Wetland/Riparian Habitat. The EIR for the LORP (LADWP, 2004) concluded that its impacts on the existing aquatic, wetland and riparian habitats of the delta would be insignificant, and that there could be increases in wetland and riparian habitat over time with rewatering. The EIR for the U.S. Borax project concluded that proposed groundwater withdrawal would not adversely affect wetland vegetation, since the amount involved is relatively small and within the seasonal variation range of local surface spring flows. If U.S. Borax proposes a new source of water for its mobile washing equipment when it moves operations north into the brine pool, a subsequent environmental document may be necessary to evaluate and mitigate the impacts of construction and water withdrawal on local habitats.

A variety of state water quality standards applicable to wetlands of the Lahontan Region help to protect their uses as aquatic and wildlife habitat. The Basin Plan includes a narrative water quality objective for Nondegradation of Aquatic Species and Populations in wetlands (page 3-5). Two designated beneficial uses of wetlands, Water Quality Enhancement (WQE) and Flood Peak Attenuation/Flood Water Storage (FLD), recognize important wetland functions. The Lahontan Regional Board also has authority to mitigate impacts on wetlands through the Clean Water Act Section 401 certification process, and the wetlands policy language in Section 4.9 of the Basin Plan.

Other Habitat Impacts. The California Department of Fish and Game (CDFG) expressed concern, in relation to the U.S. Borax project, about the impacts of highly saline discharge ponds on birds attracted by the presence of water. The Inyo County Planning Department responded that the discharge will be more dilute than natural brine, that the chemical nature of brine in new disposal sites will be similar to that of natural brine and existing spent mining panels, and that covering or sealing of mining panels is not necessary. Bird kills attributed to high salinity have occurred in large waste brine ponds on Searles Lake, to the south of Owens Lake. Bird monitoring is being conducted at Searles Lake and sick or injured birds are being cared for at a rehabilitation center. The Regional Board's current monitoring and reporting program for U.S. Borax operations on Owens Lake requires visual monitoring of active tailings ponds, including wildlife use of the ponds. Similar monitoring could be required for future disposal areas in the brine pool, and Regional Board enforcement action could be taken if necessary.

Sensitive Species. The GBUAPCD (1997) EIR identified potential impacts of dust control projects (including pipeline construction) on habitat for eight sensitive plant species, and several sensitive animal species. Impacts included elimination of potential bat roosts on boulders at the Keeler gravel extraction site, and potential disturbance of nesting sites for northern harrier, LeConte's thrasher, and loggerhead shrike by pipeline construction. Mitigation for impacts on sensitive plants includes preconstruction surveys and avoidance of the plants by reconfiguration of facilities alignments. Impacts on bird nesting habitat can be mitigated by avoiding construction during the nesting season, and

by conducting onsite surveys and avoiding nesting individuals. Site-specific mitigation measures for bat roosts and bird nesting sites are to be developed.

The GBUAPCD EIR also recognized the potential loss of habitat for sensitive species through conversion of dry transmontane alkaline meadow habitat to unvegetated dry playa and standing water. This impact will be mitigated to less than significant levels by providing water to maintain existing transmontane alkalinemeadow habitat created at shallow flooding projects, or creating new habitat elsewhere on the playa.

The Inyo County Planning Department (2004) EIR concluded that most of the local sensitive species identified in the California Natural Diversity Database (see Table 1) are unlikely to be present in the U.S. Borax project area due to lack of suitable habitat (with the exception of western snowy plover). Potential project impacts on these species were considered insignificant.

Western snowy plover. The GBUAPCD (1997) EIR recognized that planned dust control projects on the Owens Lake playa had the potential to cause a 49 percent reduction in suitable nesting habitat for western snowy plover. The EIR provided mitigation including: preconstruction surveys and bird censuses; identification of foraging habitat including brine flies; avoidance of ground disturbing activities in known or expected nesting sites during the breeding season; construction buffer areas around nesting sites and foraging areas; and post-construction surveys and habitat restoration if population declines are observed.

The Inyo County Planning Department (2004) EIR stated that, although suitable plover nesting habitat is present near proposed lake bed activities by U.S. Borax, this species is unlikely to nest in the project area due to the lack of nearby foraging habitat. Inyo County recognized that increased truck traffic on lake bed haul roads could disturb or destroy plover nests and nesting activity. The mitigation identified for such impacts includes: preconstruction biological surveys; delay of construction until nesting is completed; relocation or avoidance of nests; training for U.S. Borax employees to increase awareness of plover's presence and convey recommended methods for avoidance or minimization of harm to individuals; and continuation of practices approved under the CDFG's Lake-bed Alteration Agreement for the project.

Exotic Species. The GBUAPCD (1997) and LADWP (2004) EIRs recognized the potential for increased habitat for exotic plant and animal species (salt cedar, New Zealand mud snail, etc.) as a result of the creation of new aquatic and wetland habitat on the Owens Lake bed. These EIRs provide for mitigation of exotic species impacts to less than significant levels through measures including field surveys and an appropriate combination of biological, mechanical and chemical controls.

The LORP project will be designed and managed to minimize potential weed invasion, including the use of weed-free construction equipment. LADWP will fund monitoring by the County Agricultural Commissioner's office, which will design the control measures to be used for infestations. LADWP expects to mitigate the risk of Zealand mud snail

invasion by training its employees, cleaning construction equipment, and coordinating with the CDFG's public outreach program. Signs will be posted with directions for cleaning clothing, watercraft, etc.

Impacts of Basin Plan Amendments. The proposed amendments could affect biological resources by facilitating projects with the types of impacts discussed above.
The changes in applicability of water quality objectives and waste discharge prohibitions as a result of removal of the MUN use, if not properly mitigated, could lead to lower quality discharges to surface waters with consequent impacts on biological resources. However, stringent water quality standards for the protection of other designated beneficial uses, including a nondegradation policy and federal California Toxics Rule standards for protection of aquatic life and human health, will continue to apply to surface waters of Owens Lake. The Lahontan Basin Plan's narrative objective for nondegradation of wetland species and populations provides that wetlands shall be free from substances attributable to discharges that lead to the presence of undesirable or nuisance aquatic life. These standards will be reflected in Regional Board permits and enforcement orders for projects on the lake bed. Pesticide applications for control of exotic species will be regulated under the statewide NPDES permit for aquatic pesticides, and the Regional Board's narrative objective for pesticides in surface waters. The MUN use will continue to be designated for ground water beneath Owens Lake, and permit conditions set to protect this use will also protect biological resources associated with surface water. The Regional Board will consult with the CDFG at the time that specific waste discharge permits are adopted or revised and will consider additional site-specific mitigation for biological resource impacts as appropriate.

	Potentially Significant Impact	**Less than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
V. CULTURAL RESOURCES -- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?		X		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?		X		
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		
d) Disturb any human remains, including those interred outside of formal cemeteries?		X		

Damage to cultural resources could occur as a result of sediment disturbance or flooding by projects on the Owens Lake bed. There is also a possibility of unauthorized collection of artifacts by project employees. The GBUAPCD (1997), LADWP (2004) and Inyo County Planning Department (2004) EIRs identified such impacts and provided for mitigation to less than significant levels. Mitigation includes provisions for pre-project

surveys by qualified professionals, excavation where appropriate, data recovery for sites where disturbance is unavoidable, and coordination with tribal representatives and other agencies. The Inyo County EIR also mandates training of project employees. The GBUAPCD (1997) EIR considered the possibility of disturbance of paleontological resources to be less than significant because its construction excavations will be only 4 to 8 feet below the surface, and excavations will affect only a minor portion of the total playa area. Tilling and plowing for managed vegetation projects will be to a depth of 24 inches. The proposed Basin Plan amendments will not change the risk of encountering cultural resources associated with projects on Owens Lake, or create a need for additional mitigation.

	Potentially Significant Impact	**Less than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
VI. GEOLOGY AND SOILS -- Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?		X		
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X

Three large faults are associated with Owens Lake, and there are risks of seismic hazards. The GBUAPCD (1997) considered these risks to be less than significant because prudent

or legally required design standards will be used for infrastructure associated with dust control projects on Owens Lake. The Inyo County Planning Department (2004) and LADWP (2004) EIRs did not identify any potentially significant impacts on geology and soils that required mitigation. The proposed Basin Plan amendments will not affect the magnitude of seismic risks associated with projects on the Owens Lake bed, or the need for mitigation.

The potential for wind erosion of lake bed sediments from construction activities and vehicular traffic is discussed under Category III, Air Quality, above. The three EIRs for potential projects on the Owens Lake bed either provide mitigation for these impacts, or consider them less than significant for the projects involved. The GBUAPCD (1997) EIR noted that gravel production for dust control projects would affect local geology, but considered this impact to be less than significant.

The Regional Board has the authority to control impacts of water erosion, and will require mitigation in its permits on a project-specific basis.

	Potentially Significant Impact	**Less than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
VII. HAZARDS AND HAZARDOUS MATERIALS -- Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		X		
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		X		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X

Projects and activities on the Owens Lake bed that could be facilitated by the proposed Basin Plan amendments would not be located near schools, airports, or populated areas with a risk of wildfire. Regional Board staff consulted with the Inyo County Planning Department regarding the possible presence at Owens Lake of hazardous waste sites on the "Cortese List" required by Government Code Section 65962.5 (Question VII.d.). There are no such sites at Owens Lake.

For dust control projects, the GBUAPCD (1997) identified temporary risks to on-site workers and the public from worksite hazards, traffic, exposure to chemicals, fuels, solvents, etc., and from exposure to particulate matter (PM_{10}) from dust storms. These impacts were considered less than significant since project activities will be conducted in accordance with state and federal safety requirements. LADWP (2004) considered the potential for fuel spills associated with the LORP to be less than significant.

The GBUAPCD (1997) EIR addressed the deposition of potentially hazardous materials (trace metals) along the lower edge of water-based control measure areas (where more concentrated salts, similar to the natural playa crust, would be expected to occur). The GBUAPCD tested 17 potentially toxic metals for "total threshold limit concentrations (TTLC), above which these chemicals would be considered characteristically hazardous. (22 CCR 66261.24). The crust samples were considered representative of worst case conditions that might develop within shallow flooding and managed vegetation projects. Recirculation of irrigation water was not expected to lead to worse conditions. None of the crust samples exceeded TTLC values. Of the elements detected, only arsenic and barium were present in significant concentrations. The average arsenic concentration in the playa crust samples was about 55 milligrams per kilogram (mg/kg).

Both the GBUAPCD and LADWP EIRs identified nuisance and health risks associated with the creation of potential mosquito breeding habitat. Such impacts will be less than significant for dust control projects because design will minimize water depths. LADWP plans to mitigate the impacts of new open water and marsh mosquito habitat in the delta area through mapping, monitoring, public education, and mosquito control.

The U.S. Borax discharge of process water is from a "beneficiation" process and qualifies for exclusion from both Federal (Resource Conservation and Recovery Act, RCRA) and State (California Code of Regulations, or CCR, Title 26) hazardous waste regulations. ("Beneficiation" in this case involves removing desirable salts from the brine and returning unwanted natural constituents, including arsenic, to the lake bed.) The Regional Board's WDRs conclude that the currently permitted discharge poses a low risk to water quality but contains hazardous and non-hazardous constituents at levels that, unless appropriately managed, could cause objectives for ground and local fresh surface waters to be exceeded. Therefore the discharge is classified as Group B mining wastes under CCR Title 27, Section 22470. Future Regional Board permits for projects on the Owens Lake bed will contain effluent limitations and other requirements to prevent significant impacts from hazardous materials.

	Potentially Significant Impact	**Less than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
VIII. HYDROLOGY AND WATER QUALITY -- Would the project:				
a) Violate any water quality standards or waste discharge requirements?				X
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?				X
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?				X
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?		X		
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			X	
f) Otherwise substantially degrade water quality?		X		
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?		X		
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?		X		
j) Inundation by seiche, tsunami, or mudflow?		X		

(See the discussions of Categories IV., Biological Resources, and VII., Hazards and Hazardous Materials, for additional information on impacts and mitigation related to water quality and beneficial uses.)

Water quantity impacts. Water supplies for the LORP and dust control projects on Owens Lake will come from the Los Angeles Aqueduct, leading to an overall increase of surface water on the lake bed. Water for U.S. Borax's mobile washing facilities will be obtained from a brackish water well. The GBUAPCD (1997) recognized that the water level of the brine pool could increase through increased water in the hydrologic system for dust control, with potential impacts on mining activities. This impact was considered less than significant; much of the added water will be lost through evaporation. The GBUAPCD also recognized a less than significant impact from an increase in the level of shallow ground water due to gravel placement for dust control. Gravel would change the evaporation rate and prevent capillary transfer of water and salt to the surface.
The LADWP (2004) EIR recognized that the LORP might result in diversion of some existing flows from the delta, but considered this less than significant due to the proposed adjustment of base and pulse flows through adaptive management.

Dust control projects, U.S. Borax mining activities, and areas rewatered through the LORP will be located in areas subject to risks of flooding, and at very high water levels, to possible risks from seiches (lake waves caused by earthquakes). No structures will be placed in the delta as a result of the LORP. The GBUAPCD (1997) and Inyo County Planning Department (2004) EIRs did not identify significant risks to people and structures from flooding or seiches, although the County EIR stated that the U.S. Borax tailings ponds would be located below the 100 year flood plain elevation. Mining operations would be expected to cease during a flood.

The proposed Basin Plan amendments change applicable water quality standards, but would not change the effects of reasonably foreseeable Owens Lake projects on water quantity.

Water quality impacts. All of the reasonably foreseeable projects on Owens Lake would involve discharges or threatened discharges to surface and/or ground waters. In some cases the discharges will consist primarily of salts and trace elements already present in

surface waters or on the Owens Lake playa. In other cases, non-native chemicals such as pesticides, fertilizers, and wastes from the trona washing process may be added. These projects could also change existing water quality by diluting or concentrating naturally-present chemicals. The locations of water quality impacts may change due to mixing by flood events, high winds, or windborne dust (there is evidence that windblown dust from the Owens Lake playa has affected surface water quality in the surrounding watershed).

The proposed Basin Plan amendments could affect the nature and/or location of water quality impacts. Permit conditions might become less stringent for waters without a designated MUN use. However, permits would still need to protect other designated beneficial uses (including aquatic life and wildlife uses of surface waters and MUN uses of ground water beneath and adjacent to the lake bed). The Regional Board has authority to regulate both point and nonpoint source discharges, and discharges to ground water and surface water. Mitigation measures for water quality impacts of discharges to Owens Lake that were identified in the Regional Board's 2002 Notice of Preparation include (but are not limited to): controls on the flow rate and TDS concentration of the discharge, control of the size and location of the discharge area, monitoring, maintenance and repair of process equipment, effluent limitations, notification of spills to appropriate authorities, and timely and appropriate cleanup of spills.

As noted in the Environmental Impacts section, initial channel clearing and flushing of the Owens River as part of the LORP may lead to discharges to surface waters of the delta. LADWP (2004) considered the impacts of these discharges to be less than significant with mitigation. Regional Board staff may recommend additional mitigation as part of the permit currently under development.

The GBUAPCD (1997) EIR recognized that water-based dust control measures could change the quality of shallow ground water (impacts were considered less than significant). Tests showed that irrigation water floated on top of the shallow saline aquifer and did not dilute it. The managed vegetation measures will leach salts from ground water near the surface through drains. Dust control projects are not expected to affect the sources of spring and seep recharge, or the water supply wells along the eastern site of the lake bed. In the latter case, the head from deeper aquifers is expected to prevent contamination. Irrigation tailwater will be reused and recirculated, and earthen berms will prevent surface communication between dust control areas and the brine pool. Subsurface flow will be minimized.

The dust control measures are expected to stabilize the lake bed and reduce the potential for water quality impacts related to wind erosion; however, by preventing wind transport of salts outside of the watershed, they could maintain higher salinity levels in shallow ground water over time. The Regional Board's WDRs for the Southern Zones dust control project include limits on salinity (TDS) of water in various components of the system. Similar limits may be set in future dust control permits.

The GBUAPCD concluded that weathering and leaching of metals from gravel would have less than significant impacts on water quality, based on chemical and physical

analysis of gravel from three local sources. Changes in ground water evaporation as a result of gravel placement were not expected to change ground water chemistry.

The Inyo County Planning Department (2004) EIR for the U.S. Borax project did not include water quality impacts in its summary table, and relied on the Regional Board to mitigate any significant impacts. In its 2004 WDRs for the U.S. Borax discharge to land outside of the brine pool, the Regional Board identified two potentially significant impacts to surface and ground water quality that were not included in the County's EIR. The first impact was the potential for elevation of mineral and metals concentrations in the tailings ponds to hazardous levels by evaporation. As mitigation, the Board required the discharger to propose methods to sample, analyze and clean up any concentrations of chemicals that might build up in the tailings ponds and adversely affect water quality. U.S. Borax was also directed to submit financial a assurance document adequate to implement cleanup, and a contingency closure plan. The second impact was the potential for discharge of high salt concentrations to surface waters if the tailings ponds should flood during a 100 year flood event. The Regional Board required the tailings ponds to be designed to prevent them from being overwhelmed, inundated or washed out by a 100-year flood.

If a direct discharge of brine mining wastes to the brine pool is allowed as a result of the Basin Plan amendments, protection of ground water will continue to be a consideration. The brine pool is underlain by sediments containing clay, but there is evidence (see the Regional Board's technical staff report) that brine has affected the quality of shallow ground water since the drying of Owens Lake in the early 20th century. There will also be a risk that the industrial chemicals could be washed out of the brine pool during significant flood events and affect the aquatic life and wildlife uses of less saline surface waters. The Regional Board will evaluate the magnitude of these risks after it receives a more detailed proposal for a mining waste discharge to surface waters, and may require additional mitigation for them.

The natural background quality of process waters and stormwater entering a project site are recognized in the development of Regional Board permits. Dischargers are generally not required to treat effluent to better than background quality. Many of the surface waters of Owens Lake, including the brine pool, have naturally poor quality. However, the state's Nondegradation policy (State Water Resources Control Board Resolution 68-16, included in the appendices to the Basin Plan) is interpreted on a pollutant by pollutant basis, and findings under this policy could be required to allow discharges of non-native chemicals. Under the policy, lowering of water quality would be allowed only to the level of applicable standards (e.g., California Toxics Rule standards for the protection of aquatic life), and protection of all beneficial uses would be required. The Nondegradation Policy requires a finding that lower water quality is "of maximum benefit to the people of the State." In considering antidegradation findings, the Regional Board would need to balance the benefits of specific discharges against the risk of harming "public trust" values (e.g., biological resources) of Owens Lake.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. LAND USE AND PLANNING - Would the project:				
a) Physically divide an established community?				X
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?		X		

The GBUAPCD (1997) EIR identified several potential land use conflicts for dust control projects, associated with existing agricultural leases, gravel mining sites, and pipeline construction, but concluded that these conflicts were less than significant. No land use impacts requiring mitigation were identified in the Inyo County Planning Department (2004) EIR, and no potentially significant land use impacts of the LORP were identified in the Owens River delta.

Projects facilitated by the proposed Basin Plan amendments could potentially have impacts on sensitive plant or animal species that could be in conflict with applicable conservation plans. Such impacts can be mitigated to less than significant levels by the measures summarized under Category IV., Biological Resources, above.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. MINERAL RESOURCES -- Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X

No significant impacts on mineral resources were identified in the three EIRs for reasonably foreseeable projects on Owens Lake. Approval of the Basin Plan amendments could facilitate depletion of the mineral resources within the pool. However, the U.S. Borax mineral lease in the brine pool authorizes such depletion.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. NOISE -- Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?				X
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?				X
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				X
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X

The GBUAPCD (1997) EIR identified the potential for increased noise levels from aggregate mining and construction activities. It concluded that these impacts were less than significant. Neither of the other earlier EIRs identified noise as a significant impact for Owens Lake projects. The proposed Basin Plan amendments will not result in any changes in noise levels associated with projects on the Owens Lake bed.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. POPULATION AND HOUSING -- Would the project:				X
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X

Population growth and housing needs associated with future projects on the Owens Lake bed are not expected to be significant. The Inyo County Planning Department (2004) EIR stated that the U.S. Borax project would create 6 to 8 new jobs, mostly from the local work force. The GBUAPCD (1997) EIR projected the need for 84 to 91 temporary employees for construction of dust control projects, and 14 employees for long-term maintenance of these projects. Removal of the MUN use and its effects on Regional Board permitting and enforcement activities will not change employment or housing demands associated with projects on the Owens Lake bed.

	Potentially Significant Impact	**Less than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
XIII. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?				X
Police protection?				X
Schools?				X
Parks?				X
Other public facilities?				X

No significant impacts on public services were identified in the EIRs for reasonably foreseeable discharges on the Owens Lake bed, and no additional significant impacts on public services are expected to occur as indirect impacts of the proposed Basin Plan amendments.

	Potentially Significant Impact	**Less than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
XIV. RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

The public lands on and around Owens Lake are open to recreation. The EIR for the LORP recognized that increased recreational use of its project area, including the Owens River delta, could have adverse impacts on biological and cultural resources, grazing, existing recreational uses, and roadways, but concluded that these impacts were less than significant. Increased flows in the Owens River were not expected to be a hazard to recreational users. Potential projects on the Owens Lake bed that could be facilitated by the proposed Basin Plan amendments are not expected to include or affect recreational facilities.

	Potentially Significant Impact	**Less than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
XV. TRANSPORTATION/TRAFFIC -- Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?		X		
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?				X
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
e) Result in inadequate emergency access?				X
f) Result in inadequate parking capacity?				X
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				X

The GBUAPCD (1997) EIR identified potential traffic/transportation impacts associated with increased traffic volume, and increased traffic hazards and roadway damage from gravel hauling. It concluded that most of these impacts were less than significant. The EIR identified potentially significant increases in roadway safety hazards from trucks hauling gravel from the Dolomite, Keeler Fan, and Basalt Flow quarry sites. These impacts will be mitigated to less than significant levels through installation of warning lights, signs, and (if required by the California Department of Transportation) traffic signals. Roadway damage by trucks hauling gravel from the Dolomite quarry was considered potentially significant and was to be mitigated by repairing roads as needed to maintain safety conditions and returning them to pre-project conditions at the end of the

project. The EIR for the U.S. Borax project did not identify any potentially significant traffic impacts requiring mitigation. Changes in water levels in the Owens River delta as a result of the LORP will not have any traffic/transportation related impacts. The proposed Basin Plan amendments would not result in any additional traffic-related impacts.

	Potentially Significant Impact	**Less than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
XVI. UTILITIES AND SERVICE SYSTEMS -- Would the project				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?		X		
c)Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?		X		
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?		X	X	
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	
g) Comply with federal, state, and local statutes and regulations related to solid waste?			X	

No new domestic water or wastewater treatment systems will be associated with future projects on the Owens Lake bed. Treatment of U.S. Borax mining process water or irrigation tailwater from dust control projects could be necessary to meet Regional Board effluent limitations. Stormwater controls might also be necessary. Project-specific mitigation and monitoring will be provided as needed in future Regional Board permits.

The GBUAPCD (1997) identified potential impacts related to the use of Los Angeles Aqueduct water for dust control projects, but concluded that they are not significant. These impacts included an increasein LADWP's water shortage frequency, reduced revenue associated with hydroelectric energy supply from aqueduct water, and indirect water supply impacts on the Metropolitan Water District.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X		
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?		X		
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X		

The proposed Basin Plan amendments could indirectly lead to environmental degradation and cause adverse effects on human beings, as discussed in connection with specific environmental categories above. Such impacts can be mitigated to less than significant levels through the measures identified in approved EIRs for reasonably foreseeable projects on the Owens Lake bed, and through water quality control measures under the Lahontan Regional Board's permitting and enforcement authority.

Cumulative impacts. Historical, current and already permitted projects on Owens Lake include the onshore U.S. Borax processing plant, U.S. Borax mining operations above the Ordinary High Water Mark of the brine pool, the Southern Zones Dust Control Project, and miscellaneous other facilities such as roads and abandoned artesian wells. Reasonably foreseeable projects include a U.S. Borax discharge to the brine pool, the remaining planned dust control projects, and changes in water supply to the Owens River delta as a result of the LORP. The environmental impacts of each of these projects will occur cumulatively with those of the others. The previous EIRs for these projects did not identify significant cumulative impacts needing mitigation.

There will be cumulative benefits from dust control projects and the LORP in that they will increase the amount of surface water and wetland habitat on Owens Lake and reduce dust emissions that threaten human health. Adverse cumulative impacts could include:

- A decrease of playa habitat potentially available for snowy plover nesting, and an increase in the potential for disturbance of nesting birds with increased human activity on the lake bed. Not all of the playa was historically suitable for nesting because of the lack of nearby foraging sites. The creation or expansion of wetlands and shallow flooded areas in connection with dust control projects and the LORP may increase plover foraging sites.

- Increases over recent levels in loading of toxic water quality constituents such as arsenic from Los Angeles Aqueduct water supplied to the lake bed through dust control projects and the LORP. These constituents are from natural hydrothermal sources in the upper watershed. They would affect beneficial uses cumulatively with natural chemicals added to the lake bed over geologic time. This will be a partial return to more natural conditions that existed prior to diversions from Owens Lake's tributaries.

- Long-term accumulation of non-native constituents added to surface and ground water through human activities on the lake bed, including industrial process wastes, fertilizer, and pesticides. Some of these constituents (e.g., nitrogen in fertilizer) may be removed from the Owens Lake system in significant quantities by natural biochemical processes. However, Owens Lake is a closed system, at least with respect to surface water. (There is some evidence that ground water may move out of the surface watershed to the south.) Proposals for addition of chemicals should be evaluated carefully with consideration of their probable long-term fates and effects.

Mitigation and monitoring for cumulative impacts can be provided through the same measures used for the impacts of individual projects. As new or expanded projects are proposed on Owens Lake, lead and responsible agencies should make the results of ongoing mitigation monitoring available to each other through the CEQA consultation process. These results should be used to determine whether significant cumulative impacts have occurred, and whether additional mitigation is needed in connection with further permits.

Other Considerations. California Water Code Section 13241 includes a list of factors that must be considered by Regional Boards when establishing water quality objectives. Section 13241 does not apply to Basin Planning projects that do not establish or revise water quality objectives.

CEQA (Public Resources Code Sections 21159 and 21159.4) requires Regional Boards to analyze reasonable means of compliance with new pollution control requirements or new performance standards. The proposed Basin Plan amendments do not set new pollution control requirements or performance standards. Rather, they change existing standards

for surface waters of Owens Lake by removing a designated beneficial use. This removal in turn changes the applicability of existing water quality objectives related to protection of the MUN use. Therefore, no analysis of compliance under CEQA Section 21159 is required in this environmental document.

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

_____ I find that the proposed project COULD NOT have a significant effect on the environment

__X__ I find that the proposed project MAY have a significant effect on the environment. However, there are feasible alternatives and/or feasible mitigation measures available which would substantially lessen any significant adverse impact These alternatives and mitigation measures are discussed in the attached written report.

_____ I find that the proposed project MAY have a significant effect on the environment. There are no feasible alternatives and/or feasible mitigation measures available which would substantially lessen any significant adverse impacts. See the attached written report for a discussion of this determination.

Laurie Kemper
Signature

April 26, 2005
Date

ALTERNATIVES

Alternative I. No Project

Under this alternative, the Basin Plan would not be amended to remove the MUN use designation from surface waters of Owens Lake. The Regional Board would not be able to grant exemptions from the regionwide industrial waste discharge prohibition for discharges to surface waters of Owens Lake by U.S. Borax or any other industrial discharger. (U.S. Borax could continue to mine and discharge to land above the Ordinary High Water Mark of the brine pool under its current permit.) Water quality objectives related to the MUN use would continue to apply to all future Regional Board permitting and enforcement activities for projects affecting surface waters of Owens Lake. The provisions of Proposition 65 would also remain in effect for discharges to surface waters of the lake.

If U.S. Borax could not discharge within the brine pool, it would need to find an alternative discharge strategy in order to mine within the pool (for example, hauling trona

ore from the pool to a site elsewhere on the playa for washing and disposal of waste brine to a Regional Board-approved tailings pond). Significant changes in the project as approved by Inyo County in 2004 would require changes in its use permit for U.S. Borax, with a new or supplemental environmental document to identify and mitigate changes in environmental impacts.

Alternative 2. Remove the MUN use only from the brine pool.

Under this alternative, the MUN use would be removed from the Owens Lake brine pool (defined as the area below the jurisdictional Ordinary High Water Mark), but would not be removed from any other perennial or ephemeral surface waters of the State on the lake bed. This alternative would allow the Regional Board to consider permitting U.S. Borax to discharge below the Ordinary High Water Mark. It would continue to protect other waters on the lake bed as possible future sources of drinking water through relevant existing regulations (the Basin Plan industrial waste discharge prohibition, water quality objectives including state drinking water standards, and Proposition 65). Better quality surface waters outside of the brine pool are present in relatively small quantities and are more likely to be in demand for environmental purposes than for drinking water. However, some surface waters outside of the brine pool, including shallow flood and irrigation waters associated with dust control projects, exceed drinking water standards after mixing with salts on the Owens Lake playa surface. Also, the brine pool can extend above the Ordinary High Water Mark during very wet years, allowing poor quality brine to mix with other waters. As explained in the staff report, treatment of shallow floodwaters to meet water quality objectives for the MUN use is not feasible. Because of these complicating factors, removal of the MUN use from the entire lake bed is justified, and more easily dealt with from a regulatory standpoint.

Environmentally Superior Alternative.

Alternative 1 is the environmentally superior alternative in that it would continue the application of more stringent water quality standards and of Proposition 65, and would avoid the indirect impacts associated with a U.S. Borax discharge to the brine pool. Alternative 2 is the next most environmentally superior alternative. It would not avoid the indirect impacts of the U.S. Borax discharge to the brine pool, but would continue to apply more stringent standards and waste discharge prohibitions (including the prohibition in Proposition 65) to waters above the Ordinary High Water Mark of the brine pool.

MITIGATION AND MITIGATION MONITORING

Since adoption of the Basin Plan amendments will not have significant direct impacts, no mitigation for such impacts is required. The three final EIRs for reasonably foreseeable projects whose impacts could be considered indirect impacts of the amendments have already provided for most of the mitigation and mitigation monitoring needed for indirect impacts of the amendments. The GBUAPCD (1997) recognized that its EIR for the Owens Lake air quality plan was programmatic, and that additional CEQA documents

might be needed for specific projects carried out under the plan. Likewise, additional project-specific CEQA documents may be needed to provide mitigation for other activities on the Owens Lake bed whose impacts may differ from those analyzed in the earlier EIRs.

"Responsible" agencies under CEQA have the authority to provide for additional mitigation in their permits for specific projects, although they may rely primarily on CEQA documents prepared by lead agencies. The Lahontan Regional Board generally acts as a responsible agency for the projects that it permits. Through its permitting and enforcement authority, the Lahontan Regional Board can and should mitigate indirect impacts related to water quality, beneficial uses of water (e.g., aquatic life, wildlife and wetland uses), and hazardous materials. Some future discharges to surface waters of Owens Lake (e.g., stormwater and aquatic pesticides) may be permitted under statewide NPDES permits issued by the State Water Resources Control Board. The Regional Board has the option of issuing individual NPDES permits for such discharges if it believes that additional mitigation is necessary. Regional Board permits generally include water quality monitoring programs, and the Executive Officer has the authority to require monitoring separately from permits.

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LIST OF PREPARERS

The proposed Basin Plan amendments, the technical staff report, and this draft environmental document were prepared by Judith Unsicker, a Staff Environmental Scientist at the Regional Board's South Lake Tahoe office. The February 2002 Notice of Preparation was prepared by Shannon Smith Carney, a former member of the Board's Victorville office staff. The following additional Water Board staff provided management direction regarding the project, provided information used in preparation of the Basin Plan amendments, and related documents, and/or reviewed preliminary drafts:

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LIST OF PERSONS/AGENCIES/ORGANIZATIONS CONSULTED

California Department of Fish and Game, Bishop Office
California Department of Health Services, Drinking Water Program, San Bernardino
California Department of Transportation, District 9
California Department of Water Resources, Division of Environmental Services
California Native Plant Society, Bristlecone Chapter
California Office of Environmental Health Hazard Assessment
California Office of Mine Reclamation
California State Clearinghouse
California State Lands Commission
Crystal Geyser Beverage Plant
Eastern Sierra Audubon Society
Eastern Sierra Council of Governments
Friends of the Inyo
Great Basin Unified Air Pollution Control District (Ted Schade, Grace Holder, Jim Paulus)
Intertribal Council of California
Inyo County Environmental Health Department
Inyo County Planning Department (Jan Larsen)
Inyo County Water Department
Inyo-Mono Resource Conservation District
Inyo Register
Keeler Community Services District

Lone Pine Reservation
Los Angeles Department of Water and Power
Native American Heritage Commission
Owens Valley Committee
Owens Valley Indian Water Commission
Sierra Club Range of Light Group
Sierra Nevada Alliance
U.S. Army Corps of Engineers, Ventura Field Office
U.S. Borax
US Bureau of Indian Affairs
USBLM, Bishop
USEPA, Region IX (Kim Driver)
USFS, Inyo National Forest
USFWS, Sacramento
US Natural Resource Conservation Service
University of California Sierra Nevada Aquatic Research Laboratory

Table 1. Sensitive Plant and Animal Species at Owens Lake. (Summary of information from California Natural Diversity Database Quad Viewer Printout for Nine USGS 25K Quads centered on the Owens Lake Quad)

Common Name	Scientific Name	Federal Status	State Status	Topographic Quad Name(s)
Mammals				
California wolverine	*Gulo gulo*		Threatened	Bartlett
Mohave ground squirrel	*Spermophilus mohavensis*		Threatened	Centennial Canyon, Keeler, Vermillion Canyon
Pale big-eared bat	*Corynorhinus townsendii pallescens*		SC[1]	Dolomite
Owens valley vole	*Microtus californicus vallicola*		SC	Lone Pine, Olancha, Vermillion Canyon
California bighorn sheep	*Ovis canadensis californiana*	Endangered	Endangered	Lone Pine
Pallid bat	*Antrozous pallidus*		SC	Owens Lake, Vermillion Canyon
Birds				
Least bittern	*Ixobrychus exilis*		SC	Bartlett
Western snowy plover	*Charadrius alexandrinus nivosus*	Threatened[5]	SC	Bartlett. Dolomite, Keeler, Lone Pine, Olancha, Owens Lake, Vermillion Canyon
Yellow-breasted chat	*Icteria virens*		SC	Bartlett, Lone Pine, Olancha
LeConte's thrasher	*Toxostoma lecontei*		SC	Centennial Canyon, Cerro Gordo Peak, Dolomite, Keeler, Owens Lake
Least Bell's vireo	*Vireo bellii pusillus*	Endangered	Endangered	Lone Pine, Olancha, Vermillion Canyon
Amphibians				
Inyo Mountains slender salamander	*Batrachoseps campi*		SC	Dolomite
Fish				
Owens tui chub	*Gila bicolor snyderi*	Endangered	Endangered	Bartlett, Olancha, Owens Lake
Owens pupfish	*Cyprinodon radiosus*	Endangered	Endangered	Bartlett, Olancha, Owens Lake
Invertebrates				
Wong's springsnail	Pyrgulopsis wongii	FS:Sensitive[4]		Lone Pine, Olancha
Plants				
Father Crowley's lupine	*Lupinus padre-crowlei*		Rare, CNPS 1B[2]	Bartlett
Dedecker's clover	*Trifolium dedeckeri*		CNPS 1B	Bartlett, Olancha
Panamint Mountains lupine	*Lupinus magnificus* var. *magnificus*		CNPS 1B	Centennial Canyon
Limestone daisy	*Erigeron uncialis* var. *uncialis*		CNPS 2[3]	Cerro Gordo Peak
Inyo rock daisy	*Perityle inyoensis*		CNPS 1B	Cerro Gordo Peak

Common Name	Scientific Name	Federal Status	State Status	Topographic Quad(s)
Darwin rock cress	*Arabis pulchra* var. *munciensis*		CNPS 2	Cerro Gordo Peak
Jaeger's caulostramina	*Caulostramina jaegeri*		CNPS 1B	Cerro Gordo Peak
Inflated milk-vetch	*Astragalus cimae* var. *sufflatus*		CNPS 1B	Cerro Gordo Peak
Wildrose Canyon buckwheat	*Eriogonum eremicola*		CNPS 1B	Cerro Gordo Peak
Panamint Mountains buckwheat	*Eriogonium microthecum* var. *panamintense*		CNPS 1B	Cerro Gordo Peak
Parry's monkeyflower	*Mimulus parryi*		CNPS 2	Cerro Gordo Peak
Bald daisy	*Erigeron calvus*		CNPS 1B	Dolomite
Naked milk-vetch	*Astragalus serenoi* var. *shockleyi*		CNPS 2	Dolomite
Parish's popcorn-flower	*Plagiobothrys parishii*		CNPS 1B	Lone Pine, Olancha
Inyo phacelis	*Phacelia inyoensis*		CNPS 1B	Lone Pine
Owens Valley checkerbloom	*Sidalcea covillei*		Endangered, CNPS 1B	Lone Pine, Olancha
Nevada Oryctes	*Oryctes nevadensis*		CNPS 2	Lone Pine
Inyo County star-tulip	*Calochortus excavatus*		CNPS 1B	Lone Pine
Sharsmith's stickseed	*Hackelia sharsmithii*		CNPS 2	Olancha
Sweet-smelling monardella	*Monardella beneolens*		CNPS 1B	Olancha
Olancha Peak buckwheat	*Eriogonum wrightii* var. *olanchense*		CNPS 1B	Olancha
Sanicle cymopterus	*Cymopterus ripleyi* var. *saniculoides*		CNPS 1B	Vermillion Canyon

[1] SC = State Species of Special Concern
[2] CNPS 1B= Plant species classified by the California Native Plant Society as rare and endangered in California and elsewhere
[3] CNPS 2 = Plant species classified by the California Native Plant Society as rare, threatened or endangered in California but more common elsewhere
[4] FS: Sensitive= Defined as sensitive by Regional Forester (California Dept. of Fish and Game, 2004).
[5] The coastal population of the western snowy plover has "Threatened" status; the interior population is the one found at Owens Lake.

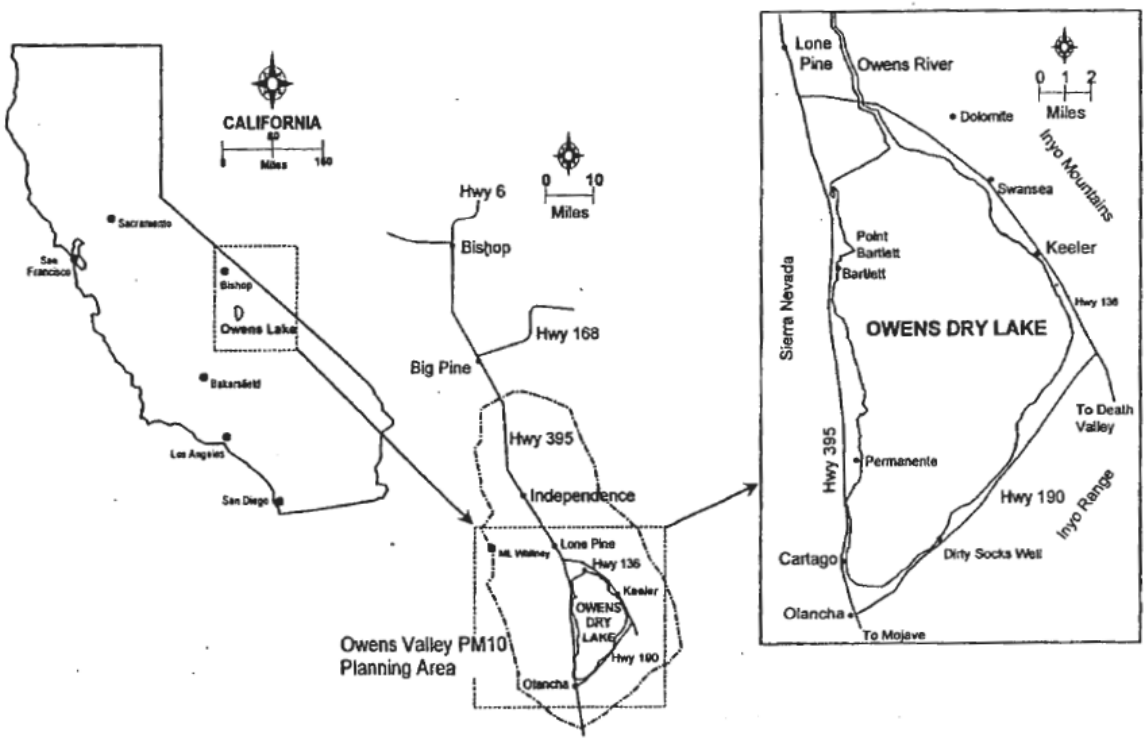

Figure 1. Owens Lake Location Map (Source: GBUAPCD, 1997)

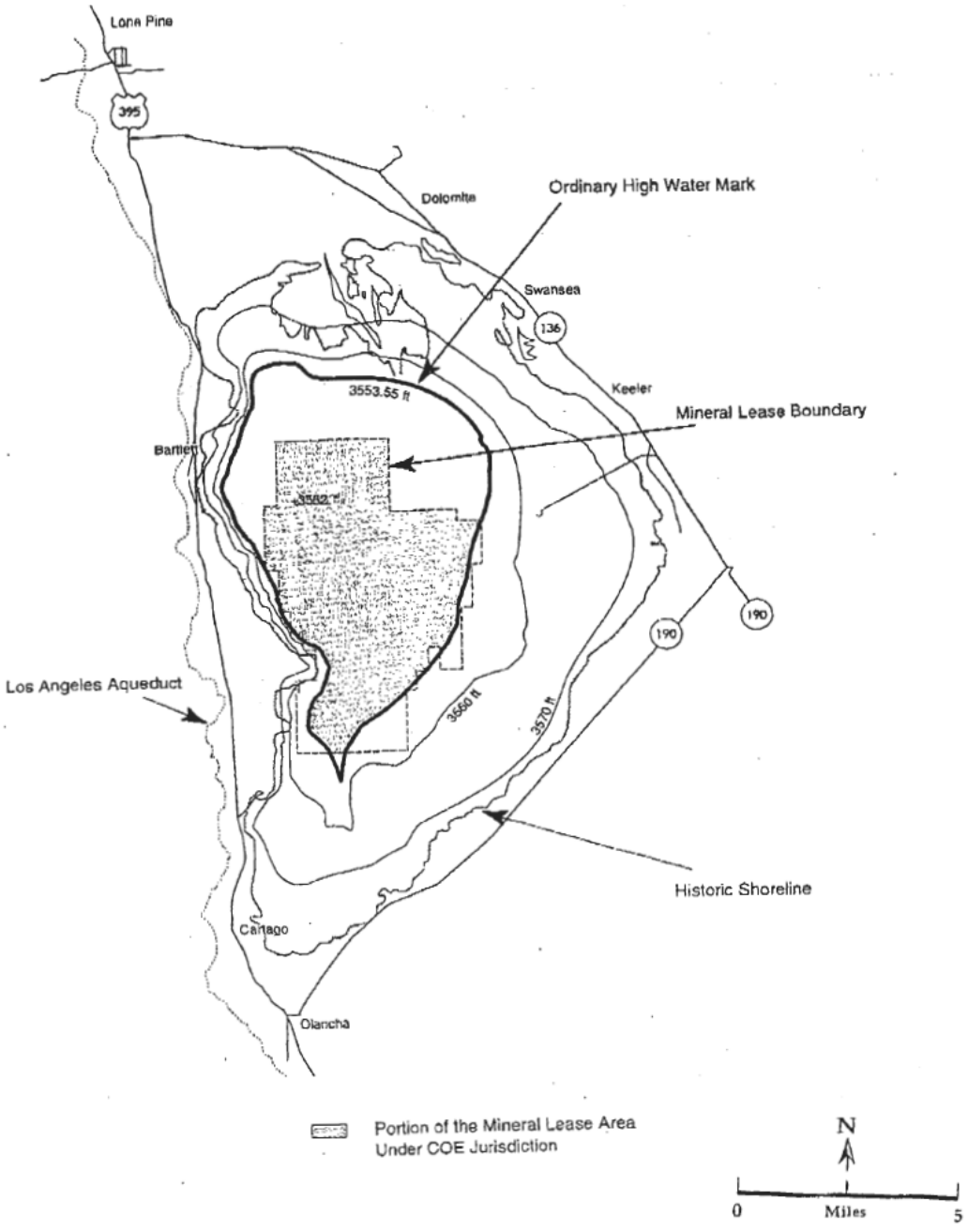

Figure 4. Ordinary High Water Mark of Owens Lake Brine Pool and U.S. Borax Mineral Lease Boundary. (Source: MHA Environmental Consulting, 1994, with modifications. The acronym "COE" in the legend stands for "U.S. Army Corps of Engineers.")